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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,733	07/21/2003	Yu Te Lu	MR1035-1279	2780

4586 7590 10/23/2006

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EXAMINER

TRAN, NHAN T

ART UNIT	PAPER NUMBER
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2622

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/622,733	Applicant(s) LU ET AL.	
	Examiner Nhan T. Tran	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The disclosure is objected to because of the following informalities:

On page 5, lines 9-12 of the disclosure, "the measuring unit 12" is not corresponding to elements shown in the drawings. It appears that number "12" is a typo error, and therefore "the measuring unit 12" should be corrected to read as – the measuring unit 14 --. Correction is required.

Claim Objections

3. **Claim 1** is objected to because of the following informalities:

In line 4 of claim 1, the limitation "the sensed light energy" should be corrected to read as -- sensed light energy --. Furthermore, in lines 5-6 of claim 1, the limitation "the corresponding exposure time" should be corrected to read as – a corresponding exposure time – to provide proper claim formalities. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Morris et al. (US 6,665,010 B1).

Regarding claim 1, Morris et al. (hereafter referred as "Morris") discloses an image-sensing device (a digital camera 210 including an imager 140 shown in Fig. 12, col. 7, lines 38-49) for auto-judging exposure time (col. 3, lines 7-30; col. 7, lines 26-31 and col. 8, lines 1-12; note that the exposure time is the integration time or integration interval for each group of pixels 118 and the exposure time is automatically judged by the time computer circuits 130 and/or the microcomputer 262), including:

a photoelectric sensing element (whole image sensing area of all pixel groups 113 shown in Fig. 5), which is composed of a plurality of sensing units (a plurality of photodiodes 190 of pixels 118; see details in Fig. 8) arranged in arrays (vertical and horizontal pixel arrays, Fig. 5) to sense the light source (incident light source) and convert sensed light energy into current signal (at nodes 191, 181 and further at node 208 shown in Fig. 8) for outputting (see col. 6, lines 22-37 and col. 5, lines 30-44); and a

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measuring unit (time computer circuit 130 and/or microprocessor 262 of the digital camera), for measuring the current signal (see Fig. 9 and col. 5, line 45 – col. 6, line 8, wherein the current signal is directly measured by the current-to-voltage conversion circuit 152 and indirectly measured by comparators 149 of time computer circuit 130. It is also noted that the current-to-voltage conversion circuit 152 inherently measures the current signal during converting process in order to convert the current signal into a corresponding voltage as disclosed) and calculating a corresponding exposure time (an integration time which is also represented by a corresponding energy time stamp) according to the sensed current signal. See col. 4, lines 28-52; col. 7, lines 26-31; col. 8, lines 1-12 and col. 5, line 30 – col. 6, line 21.

Regarding claim 2, Morris also discloses that the measuring unit (Fig. 9) is a voltage/current comparator (comparator 149 which compares the voltage converted from the current signal from line 209 with the reference voltages V_{HIST1} to V_{HISTN}). See col. 5, lines 45-65. It should be noted that the claimed “a voltage/current comparator” can be either a voltage comparator or a current comparator. Thus, at least the voltage comparator 149 disclosed in Fig. 9 meets the claimed limitation.

Regarding claim 3, also disclosed by Morris in Fig. 5 that the image-sensing device includes a row-column selector (combination of row and column decoders 121, 122 and control unit 129) to be set up so that the sensing units can be divided into several sections (i.e., four pixel groups 113). See col. 3, lines 7-29 and col. 7, lines 9-

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31, wherein the combined row, column decoders 121, 122 and control unit 129 are used to select each pixel group 113 and independently control the exposure time for each pixel group to optimize dynamic range of a captured image.

Regarding claim 4, it is clearly seen in Morris that the row-column selector further provides selective sections (selective groups 113) for highlight exposure (exposure of each different group 113 is independently adjusted to accommodate brightness of a different portion of an image). See Fig. 5, col. 3, lines 7-29 and col. 7, lines 9-31 in which the combined operations of row, column decoders 121, 122 and control unit 129 apply different exposure times to different groups to highlight local exposure for each group.

Regarding claim 5, Morris discloses that the row-column selector is further connected to a control circuit (a microprocessor). See Figs. 5 & 12; col. 6, lines 9-21 and col. 8, lines 1-12.

Regarding claim 6, it is also clear in col. 7, lines 12-19 that the row-column selector includes a row selector (row decoder 121) and a column selector (column decoder 122).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Uno (US 5,619,262) discloses an image pickup apparatus comprises a current detector for detecting current values output from a plurality of sensing units and provides automatic exposure control to the sensing units.

Merrill et al. (US 6,882,367 B1) discloses an image pickup apparatus having auto-exposure detection and control by detecting current signal output from a plurality of pixels and comparing the detected signal with a reference current signal, and then issuing an exposure control signal to the pixels to improve pixel sensitivities and dynamic range.

Kindt et al. (US 7,038,820 B1) discloses automatic exposure control for an image sensor, wherein the exposure of the pixel array is terminated when at least one pixel from a selected group of pixels exceeds a threshold limit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (571) 272-7371. The examiner can normally be reached on Monday - Friday, 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Nhan Tran', with a stylized, cursive script.

NHAN T. TRAN
Patent Examiner